TEXAS ASCLEPIADACEAE OTHER THAN ASCLEPIAS

LLOYD H. SHINNERS

Herbarium, Southern Methodist University, Dallas, Texas 75222

Woodson's drastic reduction in the number of genera of Asclepiadaceae in 1941 was certainly welcome. But for the botanist having to make routine identifications or attempting local or regional studies within the United States, the years since have been a time of continuing frustration. Only the original, highly technical key to the revised genera using inconvenient pollen characters, has been available; the genera themselves were listed without descriptions, and only two (*Asclepias* and *Sarcostemma)* have been monographically treated; several needed nomenclatural changes have remained unpublished; and, for Texas in particular, a new species and a new variety have gone undescribed. This paper has been prepared in order to clear up some of the loose ends and to provide a working guide for identification. It is based chiefly on collections in the S.M.U. Herbarium and in that of the University of Texas; for the loan of the latter I am indebted to Drs. B. L. Turner and Marshall C. Johnston. Some additional material was examined on visits to the Missouri Botanical Garden, and several critical specimens were kindly loaned by Mr. Fred B. Jones of Corpus Christi, Texas, from his personal herbarium.

Supplementing the account of the Texas representatives, I have added some routine new combinations for plants found outside the state, a key to Southeastern *Cynanchum* (owing to lack of adequate flowering material I have not yet completed one for *Matelea* in the same region; *Sarcostemma clausum* (Jacquin) Roemer & Schultes in southern Florida is the only Southeastern member of that genus), and a finding-list of generic names. The key to genera given below can also be used for the Southeast except that the introduced *Cryptostegia grandiflora* R. Brown, established in southern Florida, must be added. This is immediately separable from all the other genera by its extremely large flowers, with funnelform corolla 4—6 cm. long; in the rest the corolla (or its lobes, if spreading or reflexed) is 0.2—2.0 cm. long.

KEY TO GENERA

1a. Stamen column or its base surrounded by 5 separate, fleshy-inflated or fleshy-thickened, erect or spreading appendages

2a. Stems prostrate to erect, not twining; base of corolla not with fleshy disk under the separate appendages

3a. Leaves not both cordate and petioled; corolla green to white, yellow, orange, red, brown, or purple; wild or cultivated . . . . . 1. *Asclepias*

SIDA 1 (6): 358—367. 1964.

3b. Leaves both cordate and petioled; corolla lavender-blue; cultivated . . . . . 2. *Oxypetalum*

2b. Stems twining, at least toward tips; corolla with a fleshy disk at base under the appendages . . . . . 4. *Sarcostemma*

1b. Stamen column or its base with 1 or 2 rows of flat, thin appendages, or a single, entire or lobed, fleshy disk or cup

4a. Appendages thin and flat, in 2 rows, or a single, entire or lobed, fleshy disk or cup . . . . . 5. *Matelea*

4b. Appendages thin and flat, in 1 row

5a. Corolla funnelform or campanulate, 2.0—6.2 mm. long; wild herbaceous vines (sometimes weeds in gardens) . . 3. *Cynanchum*

5b. Corolla rotate, its narrowly oblong lobes about 10 mm. or more long; cultivated woody vine . . . . . 6. *Periploca*

1. ASCLEPIAS, with about 32 species, will not be discussed further here; no new names are required for Texas representatives, so far as known. 2. OXYPETALUM has only one infrequently cultivated species in the state, *O. caeruleum* Decaisne, with densely soft-pubescent leaves; native of Argentina.

3. CYNANCHUM.

Small to large twining vines. Corolla white to yellowish or yellow-green, rather small. Five species.

1a. Leaf blades with cordate base

2a. Appendages nearly as long as the corolla, deeply divided into linear segments (resembling staminodes) . . . . . 1. *C. laeve*

2b. Appendages less than 2/3 as long as the corolla, broadly oblong with toothed or lobed summit . . . . . 2. *C unifarium*

1b. Leaf blades with narrowed to rounded-truncate base

3a. Flowers rather numerous, terminating naked peduncles longer than the pedicels; corolla lobes glabrous within; leaf blades linear-lanceolate, the larger 4—9 cm. long . . . . . 3. *C. palustre*

3b. Flowers solitary or few, peduncles very short or absent; corolla lobes pilose or pubescent within; leaf blades lanceolate to oblong-elliptic, 1—4 cm. long

4a. Corolla lobes conspicuously pilose within; appendages lance-linear to linear-filiform, 1½—2 times as long as the stamen column

5a. Corolla 3.6—5.2 mm. long . 4a.*C. barbigerum* var. *barbigerum*

5b. Corolla 2.8—3.2 mm. long . 4b. *C. barbigerum* var. *breviflorum*

4b. Corolla lobes rather minutely pubescent within; appendages narrowly lanceolate to ovate-acuminate, slightly longer than the stamen column . . . . . 5. *C. Maccartii*

1. C. LAEVE (Michaux) Persoon. *Enslenia albida* Nuttall. *Ampelamus albidus* (Nuttall) Britton. In a north-south belt a little east of the center of the state, from Clay, Cooke, and Grayson counties south to Matagorda County. Flowering August—September. In Gould's Texas Plants this is listed both as *Ampelamus* and as *Cynanchum*, and assigned

two entirely different distributions. It is absent from the extreme eastern part of the state, where limestone is absent. Its preferred natural habitat is low ground in limestone areas; it is frequently a weed in flower beds.

2. C. UNIFARIUM (Scheele) Woodson. *Rouliniella unifaria* (Scheele) Vail. Including *Roulinia Palmeri* S. Watson, *Cynanchum Watsonianum* Woodson. The slight difference in size and toothing of the appendages hardly justifies recognition of a second species. Very similar in general appearance to the preceding. Edwards Plateau to Trans-Pecos and Rio Grande Plain, north to Parker and Taylor counties, southeast locally to Brazos (in shrubbery on Texas A. & M. campus, possibly introduced), Bastrop, and San Patricio counties; also in northeastern Mexico. Flowering mid May—October. In alluvial habitats, like *C. laeve*, but also in drier ground, often in rocky or sandy soils.

3. C. PALUSTRE (Pursh) Heller. *Lyonia palustris* (Pursh) Small. *Seutera palustris* (Pursh) Vail. Local along the Gulf Coast; specimens seen from Aransas, Galveston, and Kenedy counties. Flowering April—September.

4. C. BARBIGERUM (Scheele) Shinners, Field & Lab. 19: 65. 1951. *Metastelma barbigerum* Scheele. Type from New Braunfels, Comal Co.

4a. C. BARBIGERUM var. BARBIGERUM. Common on the southern Edwards Plateau from Travis, Llano, Mason, and Terrell counties south, and on the Rio Grande Plain, east to Karnes and Refugio counties; apparently rare in the Trans-Pecos (Brewster Co.), but the two specimens seen from that area, with somewhat small flowers (corolla 3.6 and 3.7 mm. long), may prove to be only exceptional forms of the next variety. Also in northeastern Mexico. Flowering March (in extreme south) or April—September.

4b. C. BARBIGERUM var. **breviflorum** Shinners, var. nov. Corolla minor 2.8—3.2 mm. longa (vice 3.6—5.2 mm.). HOLOTYPE: Big Bend National Park, Chisos Mountains, granite peak in center of Basin, alt. 5500 ft.; common, twining over low shrubbery; corolla white, *Grady L. Webster 4340*, 15—19 July 1952 (SMU). Largely if not wholly replacing var. *barbigerum* in the Trans-Pecos, mainly in igneous rock areas; also in Chihuahua. Flowering June—August.

5. C. **Maccartii** Shinners, nom. nov. Based on *Metastelma Palmeri* S. Watson, Proc. Amer. Acad. 18: 115. 1883. *Cynanchum Palmeri* (S. Watson) Shinners, Field & Lab. 19: 65. 1951. (Not *C. Palmeri* (S. Watson) Blake, 1917, based on *Pattalias Palmeri* S. Watson.) Very similar in general appearance to *C. barbigerum*, especially the small-flowered var. *breviflorum*. Type collected "at Laredo on the Rio Grande." Rather rare, Rio Grande Plain (Duval Co.) north and west to Uvalde and Val Verde counties; also in northeastern Mexico. Named for William Larrey McCart, Head of the Science Department, Laredo Junior College.

4. SARCOSTEMMA.

Small to moderately large twining vines (small plants twining only

at tips of stems). Flowers umbellate, terminating naked peduncles. Corolla shallowly campanulate, medium large (lobes 6—11 mm. long), greenish to creamy white, pink, purple-green or purple. Three species.

1a. Sepals narrowly lanceolate, more than 3 times as long as wide . . . . 1. *S. crispum*

1b. Sepals lanceolate to ovate, less than 3 times as long as wide

2a. Sepals 4—6 mm. long, pubescent on both surfaces; stems usually densely pubescent . . . . . 2. *S. Torreyi*

2b. Sepals 2—3 mm. long, pubescent on back only; stems globrous or sparsely pubescent

3a. Leaf blades (except smallest) 1—3 times as long as wide . . . . 3a. *S. cynanchoides* var. *cynanchoides*

3b. Leaf blades 3—12 times as long as wide . . . . 3b. *S. cynachoides* var. *Hartwegii*

1. S. CRISPUM Bentham. Including *S. lobatum* Waterfall, Rhodora 51: 58. 1949. *Philibertella crispa* (Bentham) Vail. *Funastrum crispum* (Bentham) Schlechter. Glabrous or inconspicuously pubescent. Leaf blades narrowly triangular-lanceolate with deeply cordate base, varying to linear-lanceolate with abruptly narrowed base, the margin usually (but not aways) ruffled or crisped. Frequent in Trans-Pecos, occasional east and northeast on Edwards Plateau to Travis and McLennan counties, in the Panhandle, Red Plains, and West Cross Timbers (Callahan and Palo Pinto counties); collected at West Dallas by Reverchon, noted as "local and very rare," not found there recently. Flowering late April—early August.

2. S. TORREYI (Gray) Woodson. *Philibertella Torreyi* (Gray) Vail. *Funastrum Torreyi* (Gray) Schlechter. Trans-Pecos, rather rare; known from Brewster and Presidio counties, Flowering June—August. Very similar in general appearance to *S. cynanchoides* var. *cynanchoides,* with slightly larger flowers.

3. S. CYNANCHOIDES Decaisne. *Philibertella cynanchoides* (Decaisne) Vail. *Funastrum cynanchoides* (Decaisne) Schlechter. The commonest species, with two intergrading varieties.

3a. S. CYNANCHOIDES var. CYNANCHOIDES. Leaf blades triangular-ovate with cordate base. Frequent from Trans-Pecos to lower Rio Grande Plain, Edwards Plateau, Panhandle, and Red Plains, rare in West Cross Timbers (Parker) and along Red River to Grayson County. Flowering June—September.

3b. S. CYNANCHOIDES var. **Hartwegii** (Vail) Shinners, comb. nov. *Philibertella Hartwegii* Vail, Bull. Torr. Bot. Club 24: 308. 1897. *Sarcostemma cynanchoides* ssp. *Hartwegii* (Vail) R. Holm, Ann. Mo. Bot. Gard. 37: 530. 1950. The epithet heterophyllum has been applied to this plant, in various combinations; according to Dr. Holm, its type specimen is actually a form of *S. crispum.* Leaf blades lanceolate to

linear with an abruptly wider hastate or cordate base, or without wider base. Frequent in the Trans-Pecos. Flowering April—September.

5. MATELEA.

Plants herbaceous, prostrate to suberect and rather small, or small to large twining vines, nearly glabrous or variously pubescent or pilose. Flowers small to medium large; corolla green to yellowish, brown-red, or purple-brown. Eleven species.

1a. Stems prostrate to suberect, not at all twining
  2a. Peduncles absent (pedicels attached directly in leaf axils); stamen column with a single, lobed, fleshy disk around base
    3a. Pedicels shorter than or equalling the adjacent petioles . . . . 1. *M. biflora*
    3b. Pedicels (except lowest) exceeding the adjacent petioles . . . . 2. *M. cynanchoides*
  2b. Peduncles well-developed; stamen column surrounded by a double row of thin appendages
    4a. Outer appendages wider than long, slightly shorter to slightly longer than the stamen column, truncate to shallowly 3-lobed at summit . . . . . 3. *M. brevicoronata*
    4b. Outer appendages longer than wide, slightly to much longer than the stamen column, prominently 2-pronged or 2-pointed at summit or rarely some of them single-pointed . . . . 4. *M. parviflora*
1b. Stems twining, at least toward tips
  5a. Flowers at middle and upper leaf axils on peduncles shorter than the pedicels, or without peduncles; plants small, semi-trailing or low-climbing
    6a. Corolla lobes 3—4 mm. long . . . . . 5. *M. parvifolia*
    6b. Corolla lobes 7—12 mm. long
      7a. Peduncles absent; flowers solitary or paired, short-pedicelled
        8a. Crown (appendage around stamen column) saucer-shaped, entire; Trans-Pecos mountains (Jeff Davis Co.) . . . . 6. *M. sagittifolia*
        8b. Crown cup-shaped or short-cylindric, the margin 5-parted; Rio Grande Plain west to Val Verde Co. . . 7. *M. Woodsonii*
      7b. Peduncles present except in uppermost leaf axils, 1—5 flowered . . . . 8. *M. producta*
  5b. Flowers all on elongate peduncles; medium to large climbing vines
    9a. Corolla lobes oblong-lanceolate to linear, not reticulate-veined
      10a. Sepals glabrous or sparsely hispid . . . . 9. *M. gonocarpa*
      10b. Sepals both hispid and short-pubescent . . 10. *M. decipiens*
    9b. Corolla lobes ovate, finely reticulate-veined on upper surface . . . . 11. *M. reticulata*

1. M. BIFLORA (Rafinesque) Woodson. *Vincetoxicum biflorum* (Rafinesque) Heller. Common on the Blackland Prairie of north central Texas, west and south to Lubbock, Sutton, Travis, Gonzales, and Bastrop

counties; on clayey, rocky, or less often sandy soils. This is another of the species originally described from "Arkanzas," meaning the Arkansas Territory, actually collected in present Oklahoma, persistently credited to the present state of Arkansas, where so far as I know it does not occur. Flowering April—June, rarely September.

2. M. CYNANCHOIDES (Engelmann) Woodson. *Vincetoxicum cynanchoides* (Engelmann) Heller. In northern and central Texas, from western part of Pine Belt (Upshur Co.) west to West Cross Timbers (Young Co.), south to Goliad Co., in sandy soil; frequent. Flowering April—August.

3. M. BREVICORONATA (B. L. Robinson) Woodson. *Gonolobus parviflorus* var. *brevicoronatus* B. L. Robinson. *Vincetoxicum brevicoronatum* (B. L. Robinson) Vail. Type collected at Laredo by Pringle. Rare, in lower Rio Grande Plain, in sandy or gravelly soils; specimens seen from Hidalgo, Kenedy, and Webb counties. Flowering March—September. Found wholly within the range of the next species, and distinguishable from it only by the appendages within the flower. Robinson says that it also differs in having a corolla that is not reflexed, but he must have seen flowers that were not yet fully developed; at full maturity the corolla is distinctly reflexed.

4. M. PARVIFLORA (Torrey) Woodson. *Vincetoxicum parviflorum* (Torrey) Heller. Frequent in Rio Grande Plain, northeast to Karnes County, west to Webb County, in sandy or gravelly soils. Flowering late March—October. A pathological plant from Dimmit Co. (west of Artesia Wells, *Harold Gentry 1479;* SMU) has much-branched inflorescences with mostly malformed flowers, some proliferous, a pedicel or branch arising from the flower center.

5. M. PARVIFOLIA (Torrey) Woodson. *Gonolobus parvifolius* Torrey in Emory, Rept. U.S. & Mex. Bound. Surv. 2 (Botany): 166. 1859. "Sides of hills, cañon of the Rio Grande, below Mt. Carmel, October; *Parry.*" (A second specimen cited from "near the Limpia," Wright; this was later referred by Gray to the next species.) The Sierra del Carmen is in Coahuila, and it is most probable that Parry collected this plant on the Mexican side, as he did the type of *Chaetopappa Parryi;* it was merely Gray's ignorance of local geography that led him to specify "Texas" in the Synoptical Flora. I have seen no specimens of this, either from Texas or elsewhere; it is included in the Kearney & Peebles *Arizona Flora* and the Munz & Keck *California Flora.*

6. M. **sagittifolia** (Gray) Woodson in herb., ined. *Gonolobus sagittifolius* Gray, Proc. Amer. Acad. 12: 77. 1876. Type from "Rio Limpio," Jeff Davis Co., Texas, *Wright.* Described as having single, saucer-shaped, entire crown. As long ago as 1942 Dr. Woodson used the binomial *Matelea sagittifolia* in identifying plants from the Rio Grande Plain, geographically remote from the type locality and differing in critical details of the crown. The name is not among the numerous transfers made by him

in 1941, and it has remained unpublished until now. The species is evidently very rare; I have seen no specimens, but the original description is quite clear.

7. M. **Woodsonii** Shinners, sp. nov. E descriptione *M. sagittifoliae* peraffinis sed corona cupulata vel brevicylindrica margine 5-fida. HOLOTYPE: 8 miles northeast of Rio Grande City, Starr Co., Texas, *Lundell & Lundell 9926*, 3 April 1941 (SMU). "Herbaceous vine, corolla green. In scrub on sand." Two other collections seen, both from Texas. Kleberg Co.: about 5 miles southeast of Ricardo, *Fred B. Jones 2816*, 9 March 1959 (in private herb. Fred B. Jones). "On sandy slope near ravine. Twining on Castela. Fls. greenish yellow." Val Verde Co.: rocky (limestone) hills above dam at foot of Devils Lake, about 20 miles N.N.W. of Del Rio, *Rogers McVaugh 7727*, 31 March 1947 (SMU, TEX). "Scarce; woody vine; corolla yellow-green." It is this species which is reported as *M. producta* in *Flowering Plants and Ferns of the Texas Coastal Bend Counties* by Jones, Rowell and Johnston (1961, pp. 10—11).

8. M. PRODUCTA (Torrey) Woodson. *Vincetoxicum productum* (Torrey) Vail. Leaf blades triangular-ovate, deeply cordate, soft-pubescent, mostly 2—7 cm. long (two to four times as long as those of the two preceding species). Rocky slopes, confined to the Trans-Pecos; specimens seen from Brewster, El Paso, and Jeff Davis counties. Flowering April—August.

9. M. GONOCARPA (Walter) Shinners, Field & Lab. 18: 73. 1950. *Vincetoxicum gonocarpos* Walter. *Gonolobus gonocarpos* (Walter) Perry. In a nearly north-south belt a little east of the center of the state, from Cooke, Parker, and Dallas counties south to Comal, Karnes, and Brazos counties, in steam-bottom thickets. Flowering late May—August.

10. M. DECIPIENS (Alexander) Woodson. *Odontostephana decipiens* Alexander. *Gonolobus decipiens* (Alexander) Perry. Occasional in eastern part of north central Texas (specimens seen from Grayson, Henderson, Hunt, and Wood counties), in sandy woods. Flowering April—May.

11. M. RETICULATA (Engelmann) Woodson. *Vincetoxicum reticulatum* (Engelmann) Heller. Rather common from West Cross Timbers (Palo Pinto Co.) south through the Edwards Plateau and Rio Grande Plain, east in the middle parts of its range to Bastrop and San Patricio counties, west to the eastern Trans-Pecos (Brewster and Pecos counties); also in northeastern Mexico. In thickets or brush, rocky or silty ground. Flowering March (far south), April, or May (at northern limits) to October.

6. PERIPLOCA.

P. GRACEA L. is rarely cultivated and may persist, as indicated by the following collection. Dallas Co.: from yard in White Rock area, Dallas. Plant originally found on fence line near house at an old farm on Gus Thomasson Road, now real estate development. Blackland soil, flowers purple. *Anne Estelle Orr 297*, 4 May 1958. (SMU). Fernald in the

8th edition of Gray's *Manual* reports this as escaped in the northeastern United States and as far southwest as Oklahoma.

SUPPLEMENTARY TRANSFERS AND NOTES

CYNANCHUM **arizonicum** (Gray) Shinners, comb. nov. *Metastelma arizonicum* Gray, Proc. Amer. Acad. 19: 85. 1883.

CYNANCHUM **Blodgettii** (Gray) Shinners, comb. nov. *Metastelma Blodgettii* Gray, Proc. Amer. Acad. 12: 73. 1877.

CYNANCHUM **Wigginsii** Shinners, nom. nov. *Metastelma ? angustifolium* Torrey in Emory, Rept. U.S. & Mex. Bound. Surv. 2 (Botany): 159. 1859. *Melinia angustifolia* (Torrey) Gray, Proc. Amer. Acad. 12: 70—73. 1876. *Basistelma angustifolium* (Torrey) Bartlett, Proc. Amer. Acad. 44: 632. 1909. Not *Cynanchum angustifolium* Persoon, 1806. Named in honor of Dr. Ira L. Wiggins, indefatigable student of the flora of the Sonoran Desert.

KEY TO SOUTHEASTERN CYNANCHUM

1a. Leaf blades (at least middle and lower) with cordate base
  2a. Appendages deeply divided into linear segments nearly equalling the corolla . . . . . *C. laeve*
  2b. Appendages forming a short crown with rounded lobes . . . . . *C. cubense*
1b. Leaf blades tapered to rounded-truncate at base
  3a. Corolla lobes glabrous within or nearly so
    4a. Calyx lobes triangular-ovate, obtuse . . . . . *C. scoparium*
    4b. Calyx lobes lanceolate, acute . . . . . *C. palustre*
  3b. Corolla lobes pubescent or pilose within
    5a. Corolla about 3 mm. long, the lobes pilose within toward tip; leaf blades linear-lanceolate, 1—4 mm. wide . . *C. Blodgettii*
    5b. Corolla about 4 mm. long, the lobes densely pubescent within; leaf blades oblong-lanceolate or oblong-elliptic, 6—18 mm. wide . . . . *C. Northropiae*

C. laeve and *C. palustre* are included with the Texas species; the new combination *C. Blodgettii* (Gray) Shinners is published above; authorities for the other species are *C. cubense* (Grisebach) Woodson, *C. Northropiae* (Schlechter) Alain, *C. scoparium* Nuttall.

SARCOSTEMMA BILOBUM Hooker var. **Lindenianum** (Decaisne) Shinners, comb. nov. *S. Lindenianum* Decaisne in DC., Prodr. 8: 541. 1844. *S. bilobum* ssp. *Lindenianum* (Decaisne) R Holm, Ann. Mo. Bot. Gard. 37: 519. 1950.

MATELEA **albomarginata** (Pittier) Shinners, comb. nov. *Exolobus albomarginatas* Pittier, Contrib. U.S. Nat. Herb. 13: 108. 1910. *Gonolobus Albomarginatus* (Pittier) Woodson, Ann. Mo. Bot. Gard. 28: 242. 1941.

MATELEA **aristolochiaefolia** (Brandegee) Shinners, comb. nov. *Fischeria aristolochiaefolia* Brandegee, Univ. Calif. Publ. Bot. 6: 190. 1915. *Gonolobus aristolochiaefolius* (Brandegee) Woodson, l.c.

MATELEA **arizonica** (Gray) Shinners, comb. nov. *Lachnostoma arizonicum* Gray, Proc. Amer. Acad. 20: 296. 1885. *Gonolobus arizonicus* (Gray) Woodson l.c. 243.

MATELEA **calycosa** (J. D. Smith) Shinners, comb. nov. *Fimbristemma calycosa* J. D. Smith, Bot. Gaz. 16: 196. 1891. *Gonolobus calycosus* (J. D. Smith) Woodson, l.c. 242.

MATELEA **chiapensis** (Brandegee) Shinners, comb nov. *Vincetoxicum chiapense* Brandegee, Univ. Calif. Publ. Bot. 6: 190. 1915. *Gonolobus chiapensis* (Brandegee) Woodson, lc.

MATELEA **cteniophora** (Blake) Shinners, comb. nov. *Vincetoxicum cteniophorum* Blake, Contrib. Gray Herb. 52: 84. 1917. *Gonolobus cteniophorus* (Blake) Woodson, l.c. 243.

MATELEA **Greenmanii** Shinners, nom. nov. *Lachnostoma gonoloboides* Greenman, Proc. Amer. Acad. 39: 84. 1903. *Gonolobus gonoloboides* (Greenman) Woodson, l.c. 243. Not *Matelea gonolobides* (Robinson & Greenman) Woodson, 1941.

MATELEA **Johnstonii** Shinners, nom. nov. *Gonolobus stenopetalus* Gray, Proc. Amer. Acad. 21: 398. 1886. *Matelea stenopetala* (Gray) Woodson, l.c. 231. Not *M. stenopetala* Sandwith, Kew Bull. 1931: 485. The type of Gray's species was collected by Pringle at Chihuahua, but the epithets obviously suggested by collector and locality are both already used in the genus. I have therefore renamed it in honor of Dr. Marshall C. Johnston, energetic collector and keen student of the floras of both Texas and Mexico.

MATELEA **lasiostemma** (Hemsley) Shinners, comb. nov. *Lachnostoma lasiostemma* Hemsley, Biol. Centr.-Am. Bot. 2: 335. 1882. *Gonolobus Lasiostemma* (Hemsley) Woodson *(sic)*, l.c. 243.

MATELEA **oblongifolia** (J.D. Smith) Shinners, comb. nov. *Trichostelma oblongifolium* J. D. Smith, Bot. Gaz. 48: 296. 1909. *Gonolobus oblongifolius* (J. D. Smith) Woodson, l.c. 243.

MATELEA **Smithii** Shinners, nom. nov. *Fimbristemma stenosepala* J. D. Smith, Bot. Gaz. 18: 208—209. 1893. *Gonolobus stenosepalus* (J. D. Smith) Woodson, l.c. 243. Not *Matelea stenosepala* Lundell, 1942.

MATELEA **stenantha** (Standley) Shinners, comb. nov. *Vincetoxicum stenanthum* Standley, Field Mus. Publ. Bot. Ser. 4: 255. 1929. *Gonolobus stenanthus* (Standley) Woodson, l.c. 243.

FINDING-LIST OF GENERIC NAMES

The following list is of the generic names used in Gray's *Synoptical Flora*, Small's *Flora of the Southeastern United States* and *Manual of the Southeastern Flora*, and Kearney & Peebles' *Arizona Flora*. A few of the names are only in the sense used in one or more of these floras, not as to proper type. The names in CAPITALS are those finally adopted by Woodson, with the minor emendation of reducing *Gonolobus* to

another synonym of *Matelea*. The introduced Old World genera *Cryptostegia* and *Periploca* were not among those discussed by Woodson.

Acerates=ASCLEPIAS
Ampelamus=CYNANCHUM
Amphistelma=CYNANCHUM
Anantherix=ASCLEPIAS
ASCLEPIAS (incl. Acerates, Anantherix, Asclepiodella, Asclepiodora, Biventraria, Gomphocarpa, Oxyperix, Podostigma, Schizonotus)
Asclepiodella=ASCLEPIAS
Asclepiodora=ASCLEPIAS
Astephanus=CYNANCHUM
Basistelma=CYNANCHUM
Biventraria=ASCLEPIAS
CRYPTOSTEGIA
Cyclodon=MATELEA
CYNANCHUM (incl. Amphistelma, Astephanus, Basistelma, Epicion, Lyonia, Melinia, Mellichampia, Metalepis, Metastelma, Roulinia, Rouliniella, Seutera, Vincetoxicum in part)
Edisonia=MATELEA
Epicion=CYNANCHUM
Funastrum=SARCOSTEMMA
Gomphocarpa=ASCLEPIAS
Gonolobus=MATELEA
Himantostemma=MATELEA
Lachnostoma=MATELEA
Lyonia=CYNANCHUM
MATELEA (incl. Cyclodon, Edisonia, Gonolobus, Himantostemma, Lachnostoma, Odontostephana, Pherotrichis, Rothrockia, Vincetoxicum in part)
Melinia=CYNANCHUM
Mellichampia=CYNANCHUM
Metalepis=CYNANCHUM
Metastelma=CYNANCHUM
Odontostephana=MATELEA
OXYPETALUM
Oxypteris=ASCLEPIAS
PERIPLOCA
Pherotrichis=MATELEA
Philibertella=SARCOSTEMMA
Philibertia=SARCOSTEMMA
Podostigma=ASCLEPIAS
Rothrockia=MATELEA
Roulinia=CYNANCHUM
Rouliniella=CYNANCHUM
SARCOSTEMMA (incl. Funastrum, Philibertia, Philibertella)
Schizonotus=ASCLEPIAS
Seutera=CYNANCHUM
Vincetoxicum=CYNANCHUM (Gray's species), MATELEA (Small's species)

REFERENCES

GRAY, ASA. 1886. Asclepiadaceae. Syn. Fl. N.A. (ed. 2) 2 pt. 1: 85-106, 401-404.

HOLM, RICHARD W. 1950. The American species of *Sarcostemma* R. Br. (Asclepiadaceae). Ann. Mo. Bot. Gard. 37: 477-560.

PERRY, LILY M. 1938. *Gonolobus* within the Gray's Manual range. Rhodora 40: 281-288. (Contrib. Gray Herb. 122/1.)

SHINNERS, LLOYD H. 1950. The species of *Matelea* (including *Gonolobus*) in North Central Texas (Asclepiadaceae). Field & Lab. 18: 73-78.

WOODSON, ROBERT E., JR. 1941. The North American Asclepiadaceae I. Perspective of the general Ann. Mo. Bot. Gard. 28: 193-244.

————. 1954. The North American species of *Asclepias* L. Ann. Mo. Bot. Gard. 41: 1-211.